NAVAIR

NAVY TRAINING SYSTEM PLAN

FOR THE

AN/UPX-29(V) INTERROGATOR SYSTEM

N88-NTSP-E-30-7815D/A

AUGUST 2003

AN/UPX-29(V) INTERROGATOR SYSTEM

EXECUTIVE SUMMARY

This Navy Training System Plan provides an overview of the AN/UPX-29(V) Interrogator System program and its concepts for operation, support, manpower, and training requirements. The AN/UPX-29(V) Interrogator System is a centralized, stand-alone MK XII Identification Friend or Foe system. The AN/UPX-29(V) Interrogator System functions independently or interfaces directly with Shipboard Weapons Control, Command and Decision, Combat Direction, and Naval Tactical Data Systems.

The AN/UPX-29(V) Interrogator System is in the Operations and Support Phase of the Defense Acquisition System. However, the system continues to evolve with technological advances. The AN/UPX-27 Interrogator Set, a component of the AN/UPX-29(V) Interrogator System, is being replaced by the AN/UPX-37 Digital Interrogator. The AN/UPX-24(V) Interrogator Set component is being upgraded with AN/UPX-29(V) Field Change (FC) 5. FC5 will allow for the incorporation of an open systems architecture design thus enabling MK XIIA Mode 5 and Mode S operating capability.

The AN/UPX-29(V) Interrogator System is operated by personnel from the Operations Specialist (OS) rating, officers assigned to the ship's Combat Information Center (CIC), and Air Controller (AC) personnel during flight operations. OS and Electronics Technician (ET) personnel perform preventive maintenance. ET personnel with Navy Enlisted Classification 1571, AN/UPX-29(V) Ship System Maintainer, perform corrective maintenance. Quantitative and qualitative manpower requirements associated with the AN/UPX-29(V) Interrogator System will not change as a result of this NTSP.

AN/UPX-29(V) operator training is an integrated part of ship CIC Team, Combat Officer, Fire Control, OS, and AC training courses.

AN/UPX-29(V) Interrogator System follow-on maintenance training is provided by contractor personnel at NAVAIR St. Inigoes, Maryland. FC5 information will be incorporated into this course and be ready for training in FY03.

AN/UPX-29(V) INTERROGATOR SYSTEM

TABLE OF CONTENTS

AN/UPX-29(V) INTERROGATOR SYSTEM

LIST OF ACRONYMS

AC	Air Controller
ACDS	Advanced Combat Direction System
ACDU	Active Duty
AIMS	A-Air Traffic Control Radar Beacon Systems I- Identification Friend or Foe M-Mark XII Identification System S- Systems (indicating many configurations)
ALSP	Acquisition Logistics Support Plan
AOB	Average Onboard
CBT	Computer Based Training
CFY	Current Fiscal Year
CG	Guided Missile Cruiser
CIC	Combat Information Center
CIN	Course Identification Number
CM	Corrective Maintenance
CNATT	Center for Naval Aviation Technical Training
CNO	Chief of Naval Operations
COMLANTFLT	Commander, U.S. Atlantic Fleet
COMPACFLT	Commander, U.S. Pacific Fleet
CV	Aircraft Carrier
CVN	Aircraft Carrier Nuclear
C4I	Command, Control, Communications, Computers, & Intelligence
DDG	Guided Missile Destroyer
DT	Developmental Test
EM	Electronic Module
ESA	Electronically Steered Antenna
ET	Electronics Technician
FC	Field Change
FMS	Foreign Military Sales
FY	Fiscal Year
ICSTF	Integrated Combat System Test Facility
IFF	Identification Friend or Foe

AN/UPX-29(V) INTERROGATOR SYSTEM

LIST OF ACRONYMS

ILSP	Integrated Logistics Support Plan
IPB	Illustrated Parts Breakdown
ISLS	Interrogator Side Lobe Suppression
JMSDF	Japan Maritime Self-Defense Force
LHD	Amphibious Assault Ship
LPD	Amphibious Transport Dock
MHz	Megahertz
MIP	Maintenance Index Pages
MPT	Manpower, Personnel, and Training
MRC	Maintenance Requirement Card
MSD	Material Support Date
NA	Not Applicable
NAVAIR	Naval Air Systems Command
NAVICP	Navy Inventory Control Point
NEC	Navy Enlisted Classification
NETC	Naval Education and Training Command
NOBC	Naval Officer Billet Classification
NTDS	Naval Tactical Data System
NTSP	Navy Training System Plan
OPNAV	Office of the Chief of Naval Operations
OPO	OPNAV Principal Official
OS	Operations Specialist
OSA	Open System Architecture
OT	Operational Test
PBL	Performance Based logistics
PCB	Printed Circuit Boards
PDA	Principal Development Agency
PFY	Previous Fiscal Year
PM	Preventive Maintenance
PMA	Program Manager, Air
PMS	Planned Maintenance System
PNEC	Primary Navy Enlisted Classification

AN/UPX-29(V) INTERROGATOR SYSTEM

LIST OF ACRONYMS

PQS	Personnel Qualification Standards
RF	Radio Frequency
RFT	Ready For Training
SIF	Selective Identification Feature
SNEC	Secondary Navy Enlisted Classification
TD	Training Device
TFMMS	Total Force Manpower Management System
TSA	Training Support Agency
TTE	Technical Training Equipment
ULSS	User's Logistics Support Summary
VME	Versa Module European

AN/UPX-29(V) INTERROGATOR SYSTEM

PREFACE

This Approved Navy Training System Plan (NTSP) has been developed to update the AN/UPX-29(V) Interrogator System Draft Navy Training System Plan, N88-NTSP-E-30-7815D/D, dated February 2002. This document has been updated to comply with guidelines set in the Navy Training Requirements Documentation Manual, Office of the Chief of Naval Operations (OPNAV) Publication P-751-1-9-97.

This version incorporates comments received as a result of the review of the Draft NTSP of February 2002. Comments were received from Naval Education and Training Command (NETC), NAVAIR Code 4.5.9.1, Fleet Training School Command Pacific (FTSCPAC) Radar Division, and ET1 Marino of the USS Hopper. The comments are general in nature and serve to clarify several items.

PART I - TECHNICAL PROGRAM DATA

A. NOMENCLATURE-TITLE-PROGRAM

1. Nomenclature-Title-Acronym. AN/UPX-29(V) Interrogator System

2. Program Element

Training..... 84771Q, 84731Q
Hardware..... 24292N

B. SECURITY CLASSIFICATION

1. System Characteristics ..... Unclassified
2. Capabilities ..... Unclassified
3. Functions..... Unclassified

C. MANPOWER, PERSONNEL, AND TRAINING PRINCIPALS

OPNAV Principal Official (OPO) Program Sponsor ..... CNO (N766E)

OPO Resource Sponsor..... CNO (N766E)

Developing Agency ..... NAVAIR (PMA213)

Training Agency ..... COMLANTFLT
COMPACFLT
CNATT (N5)

Training Support Agency..... NAVAIR (PMA205)

Manpower and Personnel Mission Sponsor..... CNO (N12)
NAVPERSCOM (PERS-4, PERS-404)

Director of Naval Education and Training ..... CNO (N00T)

D. SYSTEM DESCRIPTION

1. Operational Uses. The AN/UPX-29(V) Interrogator System is a centralized MK XII interrogator and target processor. It employs a challenge and reply technique to distinguish friendly platforms in a multi-targeted environment. The system interrogates MK XII

Identification Friend or Foe (IFF) transponders using a standard shipboard interrogator set, a target processor, and an Electronically Steered Antenna (ESA) system. The use of the Naval Tactical Data System (NTDS) computer interface and the ESA makes it possible to redirect the system to any bearing to interrogate high priority or popup targets on demand. The system uses an interrogator set to supply symbology to operators at as many as 22 remote locations, and synchronized with up to four different radar sweeps. It provides digital target reporting to the combat systems and weapons system computer via full scan, sectored, and popup interrogations. It also supplies instantaneous target reporting at requested range and azimuth by redirecting the ESA, while providing electronically evaluated Mode 4 target reporting directly to both operators and the ship's computer system.

The AN/UPX-29(V) Interrogator System is used aboard the Ticonderoga class Guided Missile Cruisers (CG), Arleigh Burke class Guided Missile Destroyers (DDG), Wasp class Amphibious Assault Ships (LHD), new construction class Amphibious Transport Dock (LPD), Nimitz class Aircraft Carrier Nuclear (CVN), new construction CVN 77 class ships, and the Japan Maritime Self-Defense (JMSDF) DDG 2313 class ships.

2. Foreign Military Sales. Japan purchased four AN/UPX-29(V) Interrogator Systems as part of their JMSDF program and intends to purchase an additional system in Fiscal Year (FY) 03. The South Korean government is also interested in purchasing the AN/UPX-29(V) for use aboard their Korean Foreign Military Sales (FMS) class ships. AN/UPX-29(V) Interrogator System FMS information is available through Naval Air Systems Command (NAVAIR) Program Manager, Air (PMA) 213.

E. DEVELOPMENTAL TEST AND OPERATIONAL TEST. AN/UPX-29(V) Interrogator System Developmental Testing (DT) and Operational Testing (OT) were successfully completed aboard the USS John F. Kennedy Aircraft Carrier (CV) 67 in FY78. Approval for Service Use was granted in FY83.

The AN/UPX-27 Interrogator Set, a AN/UPX-29(V) Interrogator System component, is being replaced with the AN/UPX-37 Digital Interrogator. The AN/UPX-37 Digital Interrogator was tested as part of the Air Traffic Control Radar Beacon Systems, Identification Friend or Foe, Mark XII Identification System, Systems (indicating many configurations) (AIMS) System. Refer to the AIMS MK XII Identification Friend or Foe NTSP, E-30-7115F/P, dated December 2002, for AN/UPX-37 DT and OT information. Currently, AN/UPX-37 Digital Interrogator software is undergoing AEGIS class shipboard testing. Certification was completed in fourth quarter FY02. DT and OT for the MK XIIA Mode 5 and Mode S will be conducted simultaneously, beginning in FY03, at NAVAIR Patuxent River, Maryland.

F. AIRCRAFT AND/OR EQUIPMENT/SYSTEM/SUBSYSTEM REPLACED. The AN/UPX-29(V) Interrogator System did not replace an existing system. The AN/UPX-37 Digital Interrogator will replace the AN/UPX-27 Interrogator Set.

G. DESCRIPTION OF NEW DEVELOPMENT

1. Functional Description. The AN/UPX-29(V) Interrogator System is a stand-alone IFF system used for air traffic control and positive secure friend identification. The AN/UPX-29(V) performs reply detection, defruiting, active and passive decoding, Mode 4 IFF evaluation, altitude decoding, mode code validation, and display symbol generation. The AN/UPX-29(V) uses separate uplink and downlink frequencies while converting analog data of conventional IFF operations into digital data. Specifically, the AN/UPX-29(V) Interrogator System provides the following capabilities:

- Processes and stores complete and separate target reports for all targets
- Provides high-speed automated identification of targets by instantaneous antenna redirection to computer designated locations
- Provides electronic evaluation of Mode 4 return reliability
- Provides direct readout of operator-designated target information from data storage
- Provides simultaneous display of IFF targets synchronized with up to four separate radars
- Provides for up to 22 operator positions, with all interrogation, reply processing, and information available to each individual operator
- Provides sector interrogation capability, while interfacing directly with shipboard computer control systems

a. AN/UPX-24(V) Interrogator Set. The AN/UPX-24(V) Interrogator Set consists of a Processor Controller CP-1273, Control Monitor C-10065, and up to 22 Remote Control Indicators C-10064. The AN/UPX-24(V) is the core IFF processor of the AN/UPX-29(V) Interrogator System. Its major function is to integrate other systems, and interface and control the ESA antenna. The AN/UPX-24(V) replaces the individual IFF systems previously associated with each of the many radar systems used aboard ships. The AN/UPX-24(V) provides IFF displays and target data converted to the frame of reference of each interfacing radar system. A digital interface provides all target information to the ship's Command, Control, Communications, Computers, and Intelligence (C4I) system, and then generates the antenna and interrogation commands in response to C4I system requests for priority target identification. The AN/UPX-24(V) also identifies aircraft and surface platforms equipped with Selective Identification Feature (SIF) Modes 1, 2, 3A, and C, and provide secure, positive identification of cooperative Mode 4 targets. The AN/UPX-24(V) operates in three modes: popup, active, and passive.

- Popup mode requires an ESA, which in response to a popup request, is immediately redirected to interrogate the area of interest. This permits immediate acquisition of IFF data relative to a specified target or area. Popup and active mode processing can be performed simultaneously without system degradation.

- Active mode operates with either antenna type. In response to an active request, the AN/UPX-24(V) waits until the antenna (or ESA scan) rotates to the area of interest before data is acquired. Active and popup mode processing can be performed simultaneously without system degradation.
- Passive mode data from a complete 360-degree scan is retained in memory. On receipt of a passive request, data can be obtained from scan memory.

Currently, the AN/UPX-24(V) Interrogator Set is being upgraded with FC5. FC5 is a significant upgrade to FC4, and will incorporate Open System Architecture (OSA) for increased capability. OSA uses a Versa Module European (VME) bus. Main and bypass units are replaced with completely redundant units, designated Unit A and Unit B. The change also incorporates an auto-switch assembly that automatically transfers all input/output signals to the secondary unit if a fault is detected in the primary unit. System controls are contained within the operator control panels using touch screen display technology. Additional external computer interfaces are provided. Main and bypass power supplies are replaced with identical sealed power supplies.

b. AN/UPX-27 Interrogator Set. Although the AN/UPX-27 Interrogator Set is being replaced by the AN/UPX-37 Digital Interrogator Set, the AN/UPX-27 is still currently used on numerous surface ships. The AN/UPX-27 Interrogator Set is a transportable radar recognition set, which is intended primarily for use with one or more decoder groups, radar indicators, and radar sets. It is capable of interrogating MK XII IFF/SIF type radar identification transponder sets, receiving replies, and processing the replies into proper video signals to be applied to the decoders and indicators. The interrogations are transmitted on a crystal-controlled frequency of 1030 Megahertz (MHz); the replies are received at 1090 MHz. The AN/UPX-27 generates interrogation pulse pairs for Modes 1, 2, 3A, and C whenever one of these modes is challenged. It is also capable of transmitting auxiliary Mode 4 interrogations. Operation from an external coder is also available.

c. AN/UPX-37 Digital Interrogator. The AN/UPX-37 Digital Interrogator is a modern replacement and will be used for MK XII and Mark XIIA (Mode 5). The AN/UPX-37 does not provide any additional functionality over the AN/UPX-27, but allows for the incorporation of digital technology and will facilitate future growth to address Mode S and a new Mode 5 waveform when they become military operational requirements. Digital target reports can be provided in addition to wide band video for subsequent passive and active decoding. The AN/UPX-37 also provides amplitude monopulse for significant azimuth accuracy improvement over conventional systems. The AN/UPX-37 Digital Interrogator operates autonomously or in conjunction with a host radar.

d. OE-120()/UPX Antenna Group. The OE-120()/UPX antenna group consists of the Antenna Assembly AS-3134( )/UPX, Antenna Position Programmer CV-3372/UPX, and a below deck Antenna Control Unit C-10063/UPX. The OE-120()/UPX antenna is configured with 64 vertically arrayed, equally spaced, radiating, dipole pairs mounted in a circle around the ship mast. Unlike conventional IFF systems that employ mechanically rotated antennas, the antenna elements remain stationary while the beam is steered electronically to scan a full 360

degrees around the ship. The beam can be positioned selectively in any direction within microseconds and has a continuous scan rate of up to 90 revolutions per minute. The beam can also be randomly positioned or scanned rapidly over designated sector elements. The dipole pairs are electronically azimuthal arrayed to produce directional and omnidirectional beam patterns. The antenna position programmer receives commands from the antenna control unit to control the antenna's beam mode and boresight direction. The control unit processes the host system's digital or analog commands. The control unit continuously translates synchronized data from shipboard environment sensors and modifies its commands to the antenna position programmer to compensate for the ship's roll, pitch, and heading.

e. Back-up Antenna Group. The back-up antenna group provides a back-up antenna system in the event that the OE-120()/UPX antenna system fails. The group consists of the AS-4328 (or similar) Rotating Directional Antenna, AS-177B/UPX Omnidirectional Antenna, and AN/UPA-61 Radio Frequency (RF) Switching Group.

(1) AS-4328 Rotating Directional Antenna. The rotating directional antenna radiates the sum directional RF pattern of the interrogations in accordance with directions from the CV-3372/UPX Antenna Programmer. The rotating directional antenna can be mounted piggyback or integrated with the search radar antenna.

(2) AS-177B/UPX Omnidirectional Antenna. The omnidirectional antenna radiates the Interrogator Side Lobe Suppression (ISLS) pulses in an omnidirectional pattern when used with the interrogator via the RF Switching group.

(3) AN/UPA-61 Radio Frequency Switching Group. The AN/UPA-61 RF switching group receives the RF signals and an ISLS trigger from the AN/UPX-27 or AN/UPX-37 Interrogator Set. It also sends directional pulses to the rotating antenna and the ISLS pulse to the omnidirectional antenna. It accepts RF reply signals from the rotating antenna and routes them to the AN/UPX-27 or AN/UPX-37.

f. BZ-173A/UPA-59(V) Alarm Monitor. The alarm monitor provides audible and visual indications of decoded emergency replies.

g. SG-841/UPX Pulse Generator. The pulse generator is installed only aboard DDG 51 class ships. It provides the triggers for smooth sweep and long range, display.

2. Physical Description. AN/UPX-29(V) Interrogator System physical description information is listed in the following table.

NOMENCLATURE/EQUIPMENT	DIMENSIONS H x W x D (INCHES)	WEIGHT (POUNDS)
AN/UPX-24(V) Interrogator Set		
CP-173 Processor Controller F/C5	72 x 29 x 30	868.0
CP-1273 Possessor Controller F/C1-4	72 x 29 x 30	1080.0
C-10064 Control Indicator	16 x 9 x 14	41.0
C-10065 Control Monitor	9 x 17 x 13	36.0
AN/UPX-27 Interrogator Set	11 x 16 x 19	60.0
AN/UPX-37 Interrogator	11 x 15 x 18	76.0
OE-120()/UPX Antenna Group		
AS-3134( )/UPX Antenna	17 x 151 (diameter) x11	758.0
AS-3134A/UPX Antenna	17 x 151 (diameter) x11	828.0
CV-3372/UPX Position Programmer	45 x 34 x 20	395.0
C-10063/UPX Control Unit	21 x 22 x 22	140.0
Back-up Antenna Group		
AS-177B/UPX Antenna	20 x 6 x 6	7.0
AS-4328/U Antenna	16 x 112 x 14	74.0
AN-UPA-61 RF Switching Group		
C-8834 Control Monitor	7 x 17 x 9	20.0
SA-1807 Electronic Switch	6 x 12 x 3	5.0
BZ-173A/UPA-59(V) Alarm Monitor	7 x 5 x 4	3.0
KIR-1C Crypto Computer	7 x 8 x 5	12.0
KOI-18 Crypto Keyer	2 x 4 x 21	3.0

3. New Development Introduction. The MK XII Improvement Strategy, approved February 1996, states that the services will incrementally upgrade the current MK XII system with Non-Developmental Item digital technology. Further, the incorporation of digital technology will facilitate future growth to address Mode S and a new Mode 5 waveform. The AN/UPX-37 Digital Interrogator Set satisfies this requirement and will replace the AN/UPX-27 Interrogator Set on a one-for-one basis by retrofitting each system. The AN/UPX-37 Digital Interrogator conforms to United States Frequency Modulation, Department of Defense, North Atlantic Treaty Organization, and International Civil Aviation Organization requirements.

4. Significant Interfaces. The AN/UPX-29(V) Interrogator System, although a stand-alone IFF system, interfaces with a variety of shipboard systems including: Command and Decision, NTDS, Combat Direction System, Shipboard Weapons Control Systems, Amphibious Air Traffic Control, Carrier Air Traffic Control Center, Ship Self-Defense System MK II, Cooperative Engagement Capability, AN/SPS-48 Radar Set, AN/USQ-T46A Battle Force Tactical Training System, AN/SPS-73 Surface Search Radar, and AN/SPQ-9B Anti-Ship Missile Defense Radar systems.

5. New Features, Configurations, or Material

a. AN/UPX-29(V) Interrogator System Field Change 5. The AN/UPX-29(V) FC5 modification will provide an OSA configuration that will allow for increased expansion capability, to include Mode S and Mode 5 interrogation capability.

(1) Mode S. The AN/UPX-24(V) Mode S provides improved shipboard combat identification and increases the probability of identification of neutral aircraft. The Mode S beacon system is a combined secondary surveillance radar and ground-air-ground data link system. It is capable of providing the aircraft surveillance and communication necessary to support air traffic control automation in dense traffic environments. Mode S is available and used commercially, and will provide improved functionality to the Mode 3/C system. The fundamental difference between Mode S and standard identification Modes 1, 2, 3A, and C is the manner by which aircraft are addressed, allowing selection of which aircraft will respond to an interrogation.

(2) Mode 5. The Mark XIIA Mode 5 upgrade is an improvement to the aging MK XII IFF system. The Mode 5 uses modern modulation, coding, and cryptographic techniques to overcome performance and security problems in the current MK XII waveform. It will provide high confidence, accurate, and continuous friendly identification to prevent fratricide. Additionally, MK XIIA Mode 5 will offer expanded data handling capable of passing Global Positioning System position and other extended data.

b. AN/UPX-37 Digital Interrogator. In conjunction with FC5, the addition of the AN/UPX-37 Digital Interrogator Set will enable digital technology expansion, including Mode S, the new Mode 5 waveform, and target data extraction.

H. CONCEPTS

1. Operational Concept. The AN/UPX-29(V) Interrogator System operator duties consist of selecting modes of operation, and challenging and interpreting replies. The AN/UPX-29(V) Interrogator System operator functions are performed by officers and Operations Specialist (OS) personnel with various Naval Officer Billet Classification (NOBC) and Navy Enlisted Classification (NEC) codes assigned to the Combat Information Center (CIC). Air Controller (AC) personnel also operate the system during flight operations. The AN/UPX-29(V) Interrogator System is capable of operating on a continuous basis. The addition of the AN/UPX-37 Digital Interrogator will be transparent to the operators.

2. Maintenance Concept

a. Organizational. AN/UPX-29(V) Interrogator System organizational level maintenance consists of performing Preventive Maintenance (PM) and Corrective Maintenance (CM) to the Printed Circuit Board (PCB) and Electronic Module (EM) level. AN/UPX-29(V) organizational level maintenance mainly consists of removing and replacing a failed unit. Electronics Technician (ET) personnel with NEC 1571 perform AN/UPX-29(V) organizational level maintenance.

(1) Preventive Maintenance. AN/UPX-29(V) Interrogator System PM includes operational readiness testing, Built-In Test, periodic inspections, and scheduled maintenance. PM is performed in accordance with Maintenance Index Pages (MIP), MIP-4551/292, and the Maintenance Requirements Cards (MRC) that are a part of the Planned Maintenance System (PMS). ET and OS personnel perform AN/UPX-29(V) PM.

AN/UPX-24(V) FC4 or FC5 with a AN/UPX-27	AN/UPX-24(V) FC4 or FC5 with a AN/UPX-37	AN/UPX-24(V) FC4 or FC5 with a AN/UPX-27	AN/UPX-24(V) FC4 or FC5 with a AN/UPX-37
Man Hours	Man Hours	Year Hours	Year Hours
28.20	22.10	80	51.6

(2) Corrective Maintenance. AN/UPX-29(V) Interrogator System CM includes troubleshooting, measuring, adjusting, aligning, and repairing by removing and replacing defective PCBs and EMs. The defective PCB and EM items are turned in to supply when a replacement PCB/EM is requested. CM of the AN/UPX-29(V) beyond the Commercial Off-The-Shelf modules is limited to replacing failed light-emitting diodes, connectors, and switches. ET personnel perform AN/UPX-29(V) CM.

b. Depot. AN/UPX-29(V) Interrogator System depot level maintenance includes repairing modules, recording failure analysis, and performing required calibration.

- Identification Systems Division, NAVAIR St. Inigoes, Maryland, is the primary depot repair activity for the AN/UPX-29(V), including FC5 and OE-120()/UPX FC1 and FC2 circuit cards and modules.
- The AN/UPX-24(V), because of its size, cannot be removed during overhaul. NAVAIR St. Inigoes personnel accomplish any repair, refurbishment, modification, or restoration aboard the ship.
- Space and Naval Warfare Systems Center, San Diego, California, is the organic depot level maintenance facility for the OE-120()/UPX Antenna repairable modules.

- Naval Weapons Station, Seal Beach, California, has been designated as the overhaul point and performs OE-120()/UPX overhauls.

- Naval Surface Warfare Center (Code 8095), Crane, Indiana, provides back-up repair for OE-120()/UPX power dividers and phase shifters that NAVAIRWARCENACDIV St. Inigoes cannot repair.

c. Interim Maintenance. Not Applicable (NA)

d. Life Cycle Maintenance Plan. NA

3. Manning Concept. The current quantitative and qualitative operator and maintenance manpower is sufficient to sustain fleet operations. No changes will be required. Current qualitative and quantitative manpower requirements for ET personnel were extracted from the Total Force Manpower Management System (TFMMS).

4. Training Concept. AN/UPX-29(V) Interrogator System operation training is provided during CIC Team, Combat Officer, Fire Control, OS, and AC training. AN/UPX-29(V) Interrogator System maintenance training is provided by contractor personnel at NAVAIR St. Inigoes.

NAVAIR St. Inigoes will conduct informal operator and maintenance training to ship's crew during installation of FC5. This provides an opportunity to videotape training for future use as refresher training, and for later use in the development of traditional or automated courseware. Formal training for AN/UPX-29(V) Interrogator System FC5 maintenance started in first quarter FY03. Three to four students (out of an average class size of eight) receive an additional week of AN/UPX-24(V) FC5 maintenance training after completion of the existing course, i.e., Course Identification Number (CIN) *S-102-0085, Interrogator System AN/UPX-29(V) Maintenance*.

In FY04, *S-102-0085, Interrogator System AN/UPX-29(V) Maintenance*, will be modified to incorporate FC5 information to the existing course. S-102-0085 will be extended one additional week, from 26 to 33 days, to facilitate this additional information.

In FY08, *S-102-0085, Interrogator System AN/UPX-29(V) Maintenance*, will delete all AN/UPX-24(V) FC4 information. This modification to S-102-0085 will complete the AN/UPX-29(V) training transition. At that time the S-102-0085 course length will decrease from 33 to 19 days.

a. Initial Training. Initial AN/UPX-29(V) Interrogator System operator and maintenance training was completed in FY77.

b. Follow-on Training

(1) Operator. AN/UPX-29(V) operator training is an integrated part of CIC Team, Combat Officer, Fire Control, OS, and AC training courses.

(2) Maintenance. ET personnel receive the following AN/UPX-29(V) Interrogator System maintenance training.

Title ..... Interrogator System AN/UPX-29(V) Maintenance

CIN S-102-0085

Model Manager.... NAVAIR

Description..... This course provides training to the ET, including:

- ° MK XII IFF Review and AN/UPX-29(V) Introduction
- ° AN/UPX-29(V) Operating Modes and Functional Descriptions
- ° AN/UPX-24 Controls and Indicators
- ° IFF Data Processor and Interface Control Unit Functional Descriptions
- ° Display Processor, IFF Bypass Unit, and Maintenance Monitor Unit Functional Descriptions
- ° CP-1273 Power Supplies Functional Description
- ° NTDS Interface Operation and Functional Description
- ° OE-120()/UPX Description and Functional Flow
- ° C-10063, CV-3372, and AS-3134( )/UPX Functional Descriptions
- ° AN/UPX-24 and AN/UPX-29(V) Troubleshooting
- ° AN/UPX-29(V) CM and PM Procedures

Upon completion, the student will be able to perform CM and PM on the AN/UPX-29(V) Interrogator System in a shipboard environment under limited supervision.

Delivery Method	a. Total hours of instruction by delivery method: FC4: 80 hours of group paced instructor led lecture 80 hours of group paced instructor laboratory FC5: Additional 32 hours of group paced instructor lecture. Additional 8 hours of group paced instructor laboratory. b. Media: Text c. Instructional Strategies by Hour: Total hours of instruction by delivery method FC4: 80 hours of group paced instructor led lecture 80 hours of group paced instructor laboratory FC5: Additional 32 hours of group paced instructor lecture. Additional 8 hours of group paced instructor laboratory. d. Evaluation Strategies: 6 tests and a comprehensive final examination: fill-in the blank, multiple choice, short answer. Evaluation of performance on troubleshooting problems

Location	NAVAIR St. Inigoes
Length	26 days (33 days with FC5)
RFT date	Currently available (FY04 with FC5 modification)
Skill identifier	1571
TTE/TD.....	Various AN/UPX-29(V) interrogator system and subsystem equipment
Prerequisites.....	° A-102-0062, AIMS MK-12 IFF System Maintenance ° Assigned to CG-47, DDG-51, CV/CVN or LHD-1 class ship ° NEC 1572 ° Security Clearance - Secret

c. Foreign Military Sales Training. Japan received AN/UPX-29(V) Interrogator System technical training in FY96, FY97, FY01 and FY03. They are currently scheduled to receive additional training in FY02 and FY03. For information related to Japan's technical training, contact PMA213.

d. Student Profiles

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
ET 1571	° A-102-0062, AIMS MK-12 IFF System Maintenance ° S-102-0085, Interrogator System AN/UPX-29(V) Maintenance

e. Training Pipelines. NA

I. ONBOARD (IN-SERVICE) TRAINING

1. Proficiency or Other Training Organic to the New Development. AN/UPX-29(V) Interrogator System operators use various Programmed Instruction Handbooks for Decoder Groups as well as the AIMS MK XII IFF Systems Operators Manual. There is no AN/UPX-29(V) maintenance or other proficiency training available for NEC 1571.

a. Maintenance Training Improvement Program. NA

b. Aviation Maintenance Training Continuum System. NA

2. Personnel Qualification Standards. Specific AN/UPX-29(V) Interrogator System Personnel Qualification Standards (PQS) do not exist. However, AN/UPX-29(V) Interrogator System operator material is contained in the Naval Education and Training 10061 (series) MK XII Operator PQS. PQS information is also contained in the individual CIC requirements.

3. Other Onboard or In-Service Training Packages. Each ship class has a proficiency training program for personnel assigned to the CIC that has been tailored to encompass specific procedures unique to the platform's mission.

J. LOGISTICS SUPPORT

1. Manufacturer and Contract Numbers

CONTRACT NUMBER	MANUFACTURER	ADDRESS
OE-120()/UPX N00019-91-C-0195	BAE SYSTEMS	65 River Road Nashua, NH 03051
AN/UPX-24(V) N00019-91-C-0244	Northrup Grumman	1840 Century Park East Los Angeles, CA 90067

CONTRACT NUMBER	MANUFACTURER	ADDRESS
AN/UPX-37 N00019-98-C-0156	BAE SYSTEMS	One Hazeltine Way Greenlawn, NY 11740

2. Program Documentation. The AN/UPX-29(V) Interrogator System Integrated Logistics Support Plan (ILSP), ATCE-ILSP-006, Revision A, November 1993, was discontinued. An AN/UPX-29(V) Interrogator System User's Logistics Support Summary (ULSS) ATC-ULSS-006 Revision C has been updated. Additionally, the Acquisition Logistics Support Plan (ALSP) for the AN/UPX-37 Digital Interrogator, ATC-ALSP-0010, approved in June 1998, is available.

3. Technical Data Plan. All required AN/UPX-29(V) Interrogator System technical publications, MRCs, MIP, and PMS are available, including the AN/UPX-37 Digital Interrogator Set publications. Mode S and Mode 5 technical information will be included in the AN/UPX-29 Technical manuals listed below. These changes are expected to be completed in FY03. When updated information becomes available it will be included in future editions of this document.

- AN/UPX-29-OMI-100, Technical Manual, Operation and Maintenance Instructions, AN/UPX-29(V) Interrogator System
- AN/UPX-29 NTDS Manual, Interrogator System AN/UPX-29(V) Naval Tactical Data System Interface Manual
- WS 33578, Combat Systems to Interrogator System AN/UPX-29(V) Interface Design Specification

4. Test Sets, Tools, and Test Equipment. AN/UPX-29(V) Interrogator System test sets, tools, and test equipment are listed in element IV.A.1 of this NTSP.

5. Repair Parts. The Navy Inventory Control Point (NAVICP), Mechanicsburg, Pennsylvania, has overall supply support responsibility for provisioning all spares and repair parts for the AN/UPX-29(V) Interrogator System. Currently, Identification Systems Division, NAVAIR St. Inigoes (Code 4.5.9) provides interim supply support for AN/UPX-24(V) Engineering Change Proposals and FC5 spares and repair parts until the Material Support Date (MSD) is achieved. AN/UPX-29(V) Interrogator System FC5 MSD is scheduled for FY03. When accomplished, NAVICP will assume responsibility for AN/UPX-24(V) supply support.

6. Human Systems Integration. All new design systems and software address the human-machine interface for operators, maintainers, and support personnel. The design processes conformed to standard human engineering practices as defined in existing human factors engineering design standards. Equipment changes have improved system reliability to 98.65% and have included human factors elements in the design process. The AN/UPX-29(V) maintenance training course and Fleet maintenance technicians' job responsibilities were

analyzed with human-machine interface factors in mind. Field Changes have been engineered to reduce the maintenance technician workload by providing more reliable equipment with fewer faults, quicker problem isolation and fewer parts to replace. The current system, which revolves around Interrogator Set AN/UPX-24(V) Field Change 4, features numerous switches and 54 circuit card assemblies on the Processor-Controller CP-1273/UPX-24(V). Interrogator Set AN/UPX-24(V) Field Change (FC) 5 replaces most of the switches on the CP-1273/UPX-24(V) with touch screen menus. FC5 reduces the number of cards in the CP-1273/UPX-24(V) to seven, a reduction that suggests a far more easier job of assessment for the technician. The system's BIT is also improved over that of FC4. The true measure of these changes however, will come when Interrogator Systems AN/UPX-29(V) equipped with FC5 have been installed in the Fleet for some time, a situation that does not yet exist.

This course will be taught via platform instruction. The level of learning and level of interactivity are at 4. Any future development of CBT, CAI and ICW training material will be sharable content object reference model compliant. This course is collocated and fully integrated with the system's ISEA, SSA, Technical Manager, Logistics Manager, and performance based logistics (PBL) depot. Instructors of the course are intimately connected with the development of all changes to the system. Not only are they developing courses that will eventually be used to instruct fleet maintainers of the system, they are also developing courses for technicians and engineers who are performing ISEA, SSA and Technical Manager, Logistics Manager, and PBL depot functions for the fleet. These instructors employ a configuration management system that tracks all change to the course; they monitor student comments, fleet input, and test performance to assess the currency and accuracy of the course. The use of data from the PBL depot is especially important to other instructors in the fleet. This failure data has enabled the prompt revision of PMS cards and of specific portions of the course so that the course can emphasize and enhance instruction accordingly.

The ECP process, in accordance with NAVAIRINST 4130.1C, is utilized to initiate upgrades to operational and training systems and allows for inputs to the affect on the human and MPT. All new engineering change proposals for the AN/UPX-29(V) take into consideration the human-machine interface for Operators, Maintainers and Support Personnel.

The only Operator interface with the AN/UPX-29(V) is via the Indicator (CI) C-10064/UPX-24 or Control Monitor (CM) C-10065/UPX-24(V). There is no impact to Operator training with regards to AN/UPX-29(V) upgrades at this time. Any future upgrades to the AN/UPX-29(V) system that may affect the Control Indicator (CI) C-10064/UPX-24 or Control Monitor (CM) C-10065/UPX-24(V) will be analyzed for impacts to operator training. If required, changes will be implemented in the necessary portion of the ship class CIC Team training and applicable PQS via the chain of command.

This system has no habitability impact. Manpower issues are covered in part II and III of this document.

In its current state of design, the UPX-29 contains no explosive, radioactive, or carcinogenic materials. Toxic materials are present in small amounts and in forms that present

no hazard during any phase of system ownership, including disposal. If the components were to be incinerated, limited amounts of corrosive vapors would be generated by the decomposition of wire insulation. This is common to all electronic equipment meeting the requirements to operate in the specified environments. Environmental and Occupational Safety and Health requirements meet federal, state, and local standards, regulations, and directives and are enforced by respective agencies, as applicable.

K. SCHEDULES

1. Installation and Delivery Schedules. The AN/UPX-29(V) Interrogator System FC5, procurement schedules are subject to change.

FC5 FIELD PROCUREMENT SCHEDULE								
SHIP	**FY03**	**FY04**	**FY05**	**FY06**	**FY07**	**FY08**	**FY09**	**FY10**
CG Class		2	3	6	4	4	2	1
CV/CVN Class							1	
DDG Class		3	4	7	11	8	1	1
LPD Class	1	1						
LHD Class				3	2	1		
NSCCPHD		1						
Total	**1**	**7**	**7**	**16**	**17**	**13**	**4**	**2**

2. Ready For Operational Use Schedule. The AN/UPX-29(V) Interrogator System, including the AN/UPX-37, FC5, Mode S, and Mode 5 are ready for operational use upon installation and operational checkout.

3. Time Required to Install at Operational Sites. The AN/UPX-29(V) Interrogator System is installed in the shipyard. FC5 requires approximately three weeks to install, AN/UPX-37 requires approximately one week, and Mode S and Mode 5 require approximately two weeks to install.

4. Foreign Military Sales and Other Source Delivery Schedule. Four AN/UPX-29(V) Interrogator Systems were delivered to Japan in support of their JMSDF program. The four ships that received the AN/UPX-29(V) Interrogator Systems are the Kongo DDG 173, Kirisma DDG 174, Myoko DDG 174, and Chokai DDG 176. In FY03, Japan is scheduled to receive an additional system. Additional information is available through the program office, NAVAIR, PMA213.

5. Training Device and Technical Training Equipment Delivery Schedule. Identification Systems Division, NAVAIR St. Inigoes (Code 4.5.9), has all required Technical Training Equipment (TTE). No Training Devices (TD) are required.

L. GOVERNMENT-FURNISHED EQUIPMENT AND CONTRACTOR-FURNISHED EQUIPMENT TRAINING REQUIREMENTS. NA

M. RELATED NTSPs AND OTHER APPLICABLE DOCUMENTS

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
AN/UPX-29(V) User's Logistics Support Summary	ATC-ULSS-006	PMA213	Revised Oct 02
AIMS Mark XII IFF Navy Training Systems Plan	E-30-7115F/P	PMA213	Proposed Dec 02
AN/UPX-37 Digital Interrogator Acquisition Logistics Support Plan	ATC-ALSP-0010	PMA213	Approved Jun 98

PART II - BILLET AND PERSONNEL REQUIREMENTS

The following elements are not affected by the AN/UPX-29(V) and, therefore, are not included in Part II of this NTSP:

II.A. Billet Requirements

II.A.2.a. Operational and Fleet Support Activity Deactivation Schedule

II.A. BILLET REQUIREMENTS

SOURCE OF MANPOWER: Total Force Manpower Management System (TFMMS) **DATE:** October 2002

II.A.1.a. OPERATIONAL AND FLEET SUPPORT ACTIVITY ACTIVATION SCHEDULE

ACTIVITY, UIC		PFYs	CFY03	FY04	FY05	FY06	FY07
OPERATIONAL ACTIVITIES - USN							
CG 48 Yorktown	21225	1	0	0	0	0	0
CG 51 Thomas S. Gates	21344	1	0	0	0	0	0
CG 55 Leyte Gulf	21388	1	0	0	0	0	0
CG 56 San Jacinto	21389	1	0	0	0	0	0
CG 58 Philippine Sea	21429	1	0	0	0	0	0
CG 60 Normandy	21449	1	0	0	0	0	0
CG 61 Monterey	21450	1	0	0	0	0	0
CG 64 Gettysburg	21624	1	0	0	0	0	0
CG 66 Hue City	21656	1	0	0	0	0	0
CG 68 Anzio	21658	1	0	0	0	0	0
CG 69 Vicksburg	21684	1	0	0	0	0	0
CG 71 Cape St. George	21828	1	0	0	0	0	0
CG 72 Vella Gulf	21829	1	0	0	0	0	0
CVN 68 Nimitz	03368	1	0	0	0	0	0
DDG 51 Arleigh Burke	21487	1	0	0	0	0	0
DDG 52 Barry	21660	1	0	0	0	0	0
DDG 55 Stout	21685	1	0	0	0	0	0
DDG 57 Mitscher	21687	1	0	0	0	0	0
DDG 58 Laboon	21820	1	0	0	0	0	0
DDG 61 Ramage	21823	1	0	0	0	0	0
DDG 64 Carney	21923	1	0	0	0	0	0
DDG 66 Gonzalez	21833	1	0	0	0	0	0
DDG 67 Cole	21941	1	0	0	0	0	0
DDG 68 The Sullivans	21942	1	0	0	0	0	0
DDG 71 Ross	21945	1	0	0	0	0	0
DDG 72 Mahan	21946	1	0	0	0	0	0
DDG 74 McFaul	21948	1	0	0	0	0	0
DDG 75 Donald Cook	21949	1	0	0	0	0	0
DDG 78 Porter	21952	1	0	0	0	0	0
DDG 79 Oscar Austin	21953	1	0	0	0	0	0
DDG 80 Roosevelt	21954	1	0	0	0	0	0
DDG 84 Bulkeley	22992	1	0	0	0	0	0
DDG 85 MC Campbell	22993	1	0	0	0	0	0
DDG 86 Shoup	22994	1	0	0	0	0	0
DDG 87 Mason	22995	1	0	0	0	0	0
DDG 88 Preble	22996	1	0	0	0	0	0
DDG 89 Mustin	22997	1	0	0	0	0	0
DDG 90 Chafee	23155	1	0	0	0	0	0
LHD 1 Wasp	21560	1	0	0	0	0	0
LHD 3 Kearsarge	21700	1	0	0	0	0	0

II.A.1.a. OPERATIONAL AND FLEET SUPPORT ACTIVITY ACTIVATION SCHEDULE

ACTIVITY, UIC		PFYs	CFY03	FY04	FY05	FY06	FY07
LHD 5 Bataan	21879	1	0	0	0	0	0
LHD 7 Iwo Jima	23027	1	0	0	0	0	0
CG 49 Vincennes	21295	1	0	0	0	0	0
CG 50 Valley Forge	21296	1	0	0	0	0	0
CG 52 Bunker Hill	21345	1	0	0	0	0	0
CG 53 Mobile Bay	21346	1	0	0	0	0	0
CG 54 Antietam	21387	1	0	0	0	0	0
CG 57 Lake Champlain	21428	1	0	0	0	0	0
CG 59 Princeton	21447	1	0	0	0	0	0
CG 62 Chancellorsville	21451	1	0	0	0	0	0
CG 63 Cowpens	21623	1	0	0	0	0	0
CG 65 Chosin	21625	1	0	0	0	0	0
CG 67 Shiloh	21657	1	0	0	0	0	0
CG 70 Lake Erie	21827	1	0	0	0	0	0
CG 73 Port Royal	21830	1	0	0	0	0	0
DDG 53 John Paul Jones	21313	1	0	0	0	0	0
DDG 54 Curtis Wilbur	21640	1	0	0	0	0	0
DDG 56 John S. McCain	21686	1	0	0	0	0	0
DDG 59 Russel	21821	1	0	0	0	0	0
DDG 60 Paul Hamilton	21822	1	0	0	0	0	0
DDG 62 Fitzgerald	21824	1	0	0	0	0	0
DDG 63 Stethem	21825	1	0	0	0	0	0
DDG 65 Benfold	21940	1	0	0	0	0	0
DDG 69 Miluis	21943	1	0	0	0	0	0
DDG 70 Hopper	21944	1	0	0	0	0	0
DDG 73 Decatur	21947	1	0	0	0	0	0
DDG 76 Higgins	21950	1	0	0	0	0	0
DDG 77 O'Kane	21951	1	0	0	0	0	0
DDG 81 Winston Churchill	21955	1	0	0	0	0	0
DDG 82 Lassen	21956	1	0	0	0	0	0
DDG 83 Howard	22999	1	0	0	0	0	0
DDG 91 Pinckney	23145	1	0	0	0	0	0
DDG 92 Momsen	23146	1	0	0	0	0	0
LHD 2 Essex	21533	1	0	0	0	0	0
LHD 4 Boxer	21808	1	0	0	0	0	0
LHD 6 Bonhomme Richard	22202	1	0	0	0	0	0
T-AH 19 Mercy	46245	1	0	0	0	0	0
TOTAL:		77	0	0	0	0	0
OPERATIONAL ACTIVITIES - OTHER							
Japan JMSDF	XXXXX	4	1	0	0	0	0
TOTAL:		4	1	0	0	0	0
FLEET SUPPORT ACTIVITIES - USN							
AEGIS Technical Representative	39029	1	0	0	0	0	0
FTSC LANT DET Mayport	0038A	1	0	0	0	0	0
FTSC LANT DET Naples	67562	1	0	0	0	0	0
FTSC LANT Norfolk	65912	1	0	0	0	0	0
SIMA Mayport	32779	1	0	0	0	0	0

II.A.1.a. OPERATIONAL AND FLEET SUPPORT ACTIVITY ACTIVATION SCHEDULE

ACTIVITY, UIC		PFYs	CFY03	FY04	FY05	FY06	FY07
SIMA Norfolk	32770	1	0	0	0	0	0
SIMA Pascagoula	47318	1	0	0	0	0	0
SURFCOMBATSYSCEN Wallops Island	45534	1	0	0	0	0	0
SWOSCOLCOM Rhode Island	63190	1	0	0	0	0	0
DEPMED NMC SD DET	46864	1	0	0	0	0	0
FTSC PAC DET Pearl Harbor	55302	1	0	0	0	0	0
FTSC PAC DET Singapore	39449	1	0	0	0	0	0
FTSC PAC DET Yokosuka	55305	1	0	0	0	0	0
FTSC PAC San Diego	55304	1	0	0	0	0	0
Ship Repair Facility Yokosuka	62758	1	0	0	0	0	0
T-AE 28 Santa Barbara	43054	1	0	0	0	0	0
TOTAL:		16	0	0	0	0	0

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
OPERATIONAL ACTIVITIES - USN					
CG 48 Yorktown, 21225					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 51 Thomas S. Gates, 21344					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 55 Leyte Gulf, 21388					
ACDU	0	1	ET2	1571	1471
	0	1	ET3	1591	1571
ACTIVITY TOTAL:	0	2			
CG 56 San Jacinto, 21389					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 58 Philippine Sea, 21429					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 60 Normandy, 21449					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 61 Monterey, 21450					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
CG 64 Gettysburg, 21624					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 66 Hue City, 21656					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 68 Anzio, 21658					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 69 Vicksburg, 21684					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 71 Cape St. George, 21828					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 72 Vella Gulf, 21829					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CVN 68 Nimitz, 03368					
ACDU	0	1	ET2	1571	
	0	2	ET3	1571	
ACTIVITY TOTAL:	0	3			
DDG 51 Arleigh Burke, 21487					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	9526
ACTIVITY TOTAL:	0	2			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
DDG 52 Barry, 21660					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	9526
ACTIVITY TOTAL:	0	2			
DDG 55 Stout, 21685					
ACDU	0	1	ET2	1571	9526
	0	1	ET2	1678	1571
ACTIVITY TOTAL:	0	2			
DDG 57 Mitscher, 21687					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 58 Laboon, 21820					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	9526
ACTIVITY TOTAL:	0	2			
DDG 61 Ramage, 21823					
ACDU	0	1	ET2	1471	1571
	0	1	ET3	1571	9608
ACTIVITY TOTAL:	0	2			
DDG 64 Carney, 21923					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 66 Gonzalez, 21833					
ACDU	0	1	ET2	1571	9526
	0	1	ET2	1678	1571
ACTIVITY TOTAL:	0	2			
DDG 67 Cole, 21941					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	9526
ACTIVITY TOTAL:	0	2			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
DDG 68 The Sullivans, 21942					
ACDU	0	1	ET2	1471	1571
	0	1	ET3	1571	9608
ACTIVITY TOTAL:	0	2			
DDG 71 Ross, 21945					
ACDU	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	1			
DDG 72 Mahan, 21946					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 74 McFaul, 21948					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 75 Donald Cook, 21949					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 78 Porter, 21952					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 79 Oscar Austin, 21953					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	9604
ACTIVITY TOTAL:	0	2			
DDG 80 Roosevelt, 21954					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	9604
ACTIVITY TOTAL:	0	2			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
DDG 84 Bulkeley, 22992					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	1427
ACTIVITY TOTAL:	0	2			
DDG 85 MC Campbell, 22993					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	1471
ACTIVITY TOTAL:	0	2			
DDG 86 Shoup, 22994					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	1471
ACTIVITY TOTAL:	0	2			
DDG 87 Mason, 22995					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	1471
ACTIVITY TOTAL:	0	2			
DDG 88 Preble, 22996					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	1471
ACTIVITY TOTAL:	0	2			
DDG 89 Mustin, 22997					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	1471
ACTIVITY TOTAL:	0	2			
DDG 90 Chafee, 23155					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	1471
ACTIVITY TOTAL:	0	2			
LHD 1 Wasp, 21560					
ACDU	0	1	ET2	1571	9527
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
LHD 3 Kearsarge, 21700					
ACDU	0	1	ET2	1571	9527
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
LHD 5 Bataan, 21879					
ACDU	0	1	ET2	1571	9527
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
LHD 7 Iwo Jima, 23027					
ACDU	0	1	ET2	1571	9527
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 49 Vincennes, 21295					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 50 Valley Forge, 21296					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 52 Bunker Hill, 21345					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 53 Mobile Bay, 21346					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 54 Antietam, 21387					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
CG 57 Lake Champlain, 21428					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 59 Princeton, 21447					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 62 Chancellorsville, 21451					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 63 Cowpens, 21623					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 65 Chosin, 21625					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 67 Shiloh, 21657					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 70 Lake Erie, 21827					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
CG 73 Port Royal, 21830					
ACDU	0	1	ET2	1571	
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
DDG 53 John Paul Jones, 21313					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 54 Curtis Wilbur, 21640					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 56 John S. McCain, 21686					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 59 Russel, 21821					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 60 Paul Hamilton, 21822					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	9526
ACTIVITY TOTAL:	0	2			
DDG 62 Fitzgerald, 21824					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 63 Stethem, 21825					
ACDU	0	1	ET2	1571	9526
	0	1	ET2	1678	1571
ACTIVITY TOTAL:	0	2			
DDG 65 Benfold, 21940					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
DDG 65 Benfold, 21940, FY02 Increment					
ACDU	0	1	ET3	1571	9608
ACTIVITY TOTAL:	0	3			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
DDG 69 Miluis, 21943					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 70 Hopper, 21944					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	9526
ACTIVITY TOTAL:	0	2			
DDG 73 Decatur, 21947					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 76 Higgins, 21950					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 77 O'Kane, 21951					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 81 Winston Churchill, 21955					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1571	9604
ACTIVITY TOTAL:	0	2			
DDG 82 Lassen, 21956					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			
DDG 83 Howard, 22999					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	1471	1571
ACTIVITY TOTAL:	0	2			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
DDG 91 Pinckney, 23145					
ACDU	0	1	ET1	1571	1677
	0	1	ET1	1571	9608
ACTIVITY TOTAL:	0	2			
DDG 92 Momsen, 23146					
ACDU	0	1	ET1	1571	1677
	0	1	ET1	1571	9608
ACTIVITY TOTAL:	0	2			
LHD 2 Essex, 21533					
ACDU	0	1	ET2	1571	9527
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
LHD 4 Boxer, 21808					
ACDU	0	1	ET2	1571	9527
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
LHD 6 Bonhomme Richard, 22202					
ACDU	0	1	ET2	1571	9527
	0	1	ET3	1571	
ACTIVITY TOTAL:	0	2			
T-AH 19 Mercy, 46245					
ACDU	0	1	ET2	1571	
ACTIVITY TOTAL:	0	1			
OPERATIONAL ACTIVITIES - OTHER					
Japan JMSDF, XXXXX					
Other	0	8	FMS		
Japan JMSDF, XXXXX, FY03 Increment					
Other	0	2	FMS		
ACTIVITY TOTAL:	0	10			
FLEET SUPPORT ACTIVITIES - USN					

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
AEGIS Technical Representative, 39029					
ACDU	0	1	ET1	1571	9608
	0	1	ET2	9608	1571
ACTIVITY TOTAL:	0	2			
FTSC LANT DET Mayport, 0038A					
ACDU	0	1	ETC	1571	1511
	0	1	ETC	1572	1571
ACTIVITY TOTAL:	0	2			
FTSC LANT DET Naples, 67562					
ACDU	0	1	ETC	1571	
ACTIVITY TOTAL:	0	1			
FTSC LANT Norfolk, 65912					
ACDU	0	1	ETC	1507	1571
	0	2	ETC	1571	
ACTIVITY TOTAL:	0	3			
SIMA Mayport, 32779					
ACDU	0	1	ET1	1571	
ACTIVITY TOTAL:	0	1			
SIMA Norfolk, 32770					
ACDU	0	2	ET2	1571	9526
ACTIVITY TOTAL:	0	2			
SIMA Pascagoula, 47318					
ACDU	0	1	ET2	1571	1486
ACTIVITY TOTAL:	0	1			
SURFCOMBATSYSCEN Wallops Island, 45534					
ACDU	0	1	ETC	1510	1571
	0	1	ET1	1571	1460
ACTIVITY TOTAL:	0	2			
SWOSCOLCOM Rhode Island, 63190					
ACDU	0	1	ET2	1571	
ACTIVITY TOTAL:	0	1			

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
DEPMED NMC SD DET, 46864					
ACDU	0	1	ET2	1571	
ACTIVITY TOTAL:	0	1			
FTSC PAC DET Pearl Harbor, 55302					
ACDU	0	1	ETC	1510	1571
	0	1	ETC	1571	9503
ACTIVITY TOTAL:	0	2			
FTSC PAC DET Singapore, 39449					
ACDU	0	1	ETC	1510	1571
ACTIVITY TOTAL:	0	1			
FTSC PAC DET Yokosuka, 55305					
ACDU	0	1	ETC	1510	1571
	0	1	ETC	1571	
ACTIVITY TOTAL:	0	2			
FTSC PAC San Diego, 55304					
ACDU	0	1	ETC	1571	1507
ACTIVITY TOTAL:	0	1			
Ship Repair Facility Yokosuka, 62758					
ACDU	0	1	ET1	1571	
ACTIVITY TOTAL:	0	1			
T-AE 28 Santa Barbara, 43054					
ACDU	0	1	ET3	1571	1471
ACTIVITY TOTAL:	0	1			

NOTE: Japanese Naval personnel receive AN/UPX-29(V) Interrogator System as part of their JMSDF operations.

II.A.1.c. TOTAL BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

DESIG/ RATING	PNEC/SNEC PMOS/SMOS		PFYs OFF	PFYs ENL	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
USN OPERATIONAL ACTIVITIES - ACDU														
ET1	1571	1677	2		0		0		0		0		0	
ET1	1571	9608	36		0		0		0		0		0	
ET2	1471	1571	21		0		0		0		0		0	
ET2	1571		27		0		0		0		0		0	
ET2	1571	1427	1		0		0		0		0		0	
ET2	1571	1471	7		0		0		0		0		0	
ET2	1571	9526	9		0		0		0		0		0	
ET2	1571	9527	7		0		0		0		0		0	
ET2	1571	9604	3		0		0		0		0		0	
ET2	1678	1571	3		0		0		0		0		0	
ET3	1571		34		0		0		0		0		0	
ET3	1571	9608	3		0		0		0		0		0	
ET3	1591	1571	1		0		0		0		0		0	
OTHER OPERATIONAL ACTIVITIES - OTHER														
FMS			8		2		0		0		0		0	
USN FLEET SUPPORT ACTIVITIES - ACDU														
ETC	1507	1571	1		0		0		0		0		0	
ETC	1510	1571	4		0		0		0		0		0	
ETC	1571		4		0		0		0		0		0	
ETC	1571	1507	1		0		0		0		0		0	
ETC	1571	1511	1		0		0		0		0		0	
ETC	1571	9503	1		0		0		0		0		0	
ETC	1572	1571	1		0		0		0		0		0	
ET1	1571		2		0		0		0		0		0	
ET1	1571	1460	1		0		0		0		0		0	
ET1	1571	9608	1		0		0		0		0		0	
ET2	1571		2		0		0		0		0		0	
ET2	1571	1486	1		0		0		0		0		0	
ET2	1571	9526	2		0		0		0		0		0	
ET2	9608	1571	1		0		0		0		0		0	
ET3	1571	1471	1		0		0		0		0		0	

II.A.1.c. TOTAL BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

DESIG/ RATING	PNEC/SNEC PMOS/SMOS	PFYs OFF	PFYs ENL	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
SUMMARY TOTALS:													
USN OPERATIONAL ACTIVITIES - ACDU													
	154			0		0		0		0		0	
OTHER OPERATIONAL ACTIVITIES - OTHER													
FMS	8			2		0		0		0		0	
USN FLEET SUPPORT ACTIVITIES - ACDU													
	24			0		0		0		0		0	
GRAND TOTALS:													
USN - ACDU													
	178			0		0		0		0		0	
OTHER - OTHER													
FMS	8			2		0		0		0		0	

II.A.2.b. BILLETS TO BE DELETED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
OPERATIONAL ACTIVITIES - USN					
DDG 65 Benfold, 21940, FY02 Increment					
ACDU	0	1	ET1	1571	9608
ACTIVITY TOTAL:	0	1			

II.A.2.c. TOTAL BILLETS TO BE DELETED IN OPERATIONAL AND FLEET SUPPORT ACTIVITIES

DESIG/ RATING	PNEC/SNEC PMOS/SMOS	PFYs OFF	PFYs ENL	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
USN OPERATIONAL ACTIVITIES - ACDU													
ET1	1571 9608		-1		0		0		0		0		0
SUMMARY TOTALS:													
USN OPERATIONAL ACTIVITIES - ACDU													
			-1		0		0		0		0		0
GRAND TOTALS:													
USN - ACDU			-1		0		0		0		0		0

II.A.3. TRAINING ACTIVITIES INSTRUCTOR AND SUPPORT BILLET REQUIREMENTS

DESIG RATING	PNEC/SNEC PMOS/SMOS	PFYs OFF	PFYs ENL	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
TRAINING ACTIVITY, LOCATION, UIC: NAVAIR St. Inigoes, 64485													
INSTRUCTOR BILLETS													
OTHER													
BAE SYSTEMS		0	3	0	3	0	3	0	3	0	3	0	3
SUPPORT BILLETS													
OTHER													
BAE SYSTEMS		0	1	0	1	0	1	0	1	0	1	0	1
TOTAL:		0	4	0	4	0	4	0	4	0	4	0	4

II.A.4. CHARGEABLE STUDENT BILLET REQUIREMENTS

ACTIVITY, LOCATION, UIC	USN/ USMC	PFYs OFF	PFYs ENL	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
NAVAIR St. Inigoes, 64485													
	USN	0.0	2.9	0.0	3.0	0.0	3.1	0.0	3.1	0.0	3.1	0.0	3.1
SUMMARY TOTALS:													
	USN	0.0	2.9	0.0	3.0	0.0	3.1	0.0	3.1	0.0	3.1	0.0	3.1
GRAND TOTALS:		0.0	2.9	0.0	3.0	0.0	3.1	0.0	3.1	0.0	3.1	0.0	3.1

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY03 +/-	CFY03 CUM	FY04 +/-	FY04 CUM	FY05 +/-	FY05 CUM	FY06 +/-	FY06 CUM	FY07 +/-	FY07 CUM
a. OFFICER - USN	Not Applicable												
b. ENLISTED - USN													
Operational Billets ACDU and TAR													
ET1	1571	1677	2	0	2	0	2	0	2	0	2	0	2
ET1	1571	9608	35	0	35	0	35	0	35	0	35	0	35
ET2	1471	1571	21	0	21	0	21	0	21	0	21	0	21
ET2	1571		27	0	27	0	27	0	27	0	27	0	27
ET2	1571	1427	1	0	1	0	1	0	1	0	1	0	1
ET2	1571	1471	7	0	7	0	7	0	7	0	7	0	7
ET2	1571	9526	9	0	9	0	9	0	9	0	9	0	9
ET2	1571	9527	7	0	7	0	7	0	7	0	7	0	7
ET2	1571	9604	3	0	3	0	3	0	3	0	3	0	3
ET2	1678	1571	3	0	3	0	3	0	3	0	3	0	3
ET3	1571		34	0	34	0	34	0	34	0	34	0	34
ET3	1571	9608	3	0	3	0	3	0	3	0	3	0	3
ET3	1591	1571	1	0	1	0	1	0	1	0	1	0	1
Fleet Support Billets ACDU and TAR													
ETC	1507	1571	1	0	1	0	1	0	1	0	1	0	1
ETC	1510	1571	4	0	4	0	4	0	4	0	4	0	4
ETC	1571		4	0	4	0	4	0	4	0	4	0	4
ETC	1571	1507	1	0	1	0	1	0	1	0	1	0	1
ETC	1571	1511	1	0	1	0	1	0	1	0	1	0	1
ETC	1571	9503	1	0	1	0	1	0	1	0	1	0	1
ETC	1572	1571	1	0	1	0	1	0	1	0	1	0	1
ET1	1571		2	0	2	0	2	0	2	0	2	0	2
ET1	1571	1460	1	0	1	0	1	0	1	0	1	0	1
ET1	1571	9608	1	0	1	0	1	0	1	0	1	0	1
ET2	1571		2	0	2	0	2	0	2	0	2	0	2
ET2	1571	1486	1	0	1	0	1	0	1	0	1	0	1
ET2	1571	9526	2	0	2	0	2	0	2	0	2	0	2
ET2	9608	1571	1	0	1	0	1	0	1	0	1	0	1
ET3	1571	1471	1	0	1	0	1	0	1	0	1	0	1
Chargeable Student Billets ACDU and TAR													
			3	0	3	1	4	0	4	0	4	0	4
TOTAL USN ENLISTED BILLETS:													
Operational			153	0	153	0	153	0	153	0	153	0	153
Fleet Support			24	0	24	0	24	0	24	0	24	0	24
Chargeable Student			3	0	3	1	4	0	4	0	4	0	4

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY03 +/-	CFY03 CUM	FY04 +/-	FY04 CUM	FY05 +/-	FY05 CUM	FY06 +/-	FY06 CUM	FY07 +/-	FY07 CUM

c. OFFICER - USMC Not Applicable

d. ENLISTED - USMC Not Applicable

II.B. ANNUAL TRAINING INPUT REQUIREMENTS

CIN, COURSE TITLE: S-102-0085, Interrogator System AN/UPX-29(V) Maintenance **(current course)**
COURSE LENGTH: 4.0 Weeks **NAVY TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% **BACKOUT FACTOR:** 0.08

TRAINING		ACDU/TAR	CFY03		FY04		FY05		FY06		FY07	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
NAVAIR St. Inigoes												
	USN	ACDU		18		0		0		0		0
	OTHER	Other		4		0		0		0		0
		TOTAL:		22		0		0		0		0

CIN, COURSE TITLE: S-102-0085, Interrogator System AN/UPX-29(V) Maintenance **(with FC 5)**
COURSE LENGTH: 5.0 Weeks **NAVY TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 10% **BACKOUT FACTOR:** 0.08

TRAINING		ACDU/TAR	CFY03		FY04		FY05		FY06		FY07	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
NAVAIR St. Inigoes												
	USN	ACDU		25		45		45		45		45
	OTHER	Other		0		3		3		3		3
		TOTAL:		25		48		48		48		48

PART III - TRAINING REQUIREMENTS

The following elements are not affected by the AN/UPX-29(V) and, therefore, are not included in Part III of this NTSP:

III.A.1. Initial Training Requirements

III.A.2. Follow-on Training

III.A.2.b. Planned Courses

III.A.2. FOLLOW-ON TRAINING

III.A.2.a. EXISTING COURSES

CIN, COURSE TITLE: S-102-0085, Interrogator System AN/UPX-29(V) Maintenance **(current course)**
TRAINING ACTIVITY: NAVAIR
LOCATION, UIC: St. Inigoes, 64485

SOURCE: USN **STUDENT CATEGORY:** ACDU - TAR

CFY03		FY04		FY05		FY06		FY07		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
18		0		0		0		0		ATIR
18		0		0		0		0		Output
1.3		0.0		0.0		0.0		0.0		AOB
1.3		0.0		0.0		0.0		0.0		Chargeable

SOURCE: OTHER **STUDENT CATEGORY:** Other

CFY03		FY04		FY05		FY06		FY07		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
4		0		0		0		0		ATIR
4		0		0		0		0		Output
0.3		0.0		0.0		0.0		0.0		AOB
0.3		0.0		0.0		0.0		0.0		Chargeable

Note: In FY03, upon completion of course *S-102-0085, Interrogator System AN/UPX-29(V) Maintenance*, approximately half the students will remain at NAVAIR St. Inigoes for an additional one week of FC5 maintenance training. In FY04, S-102-0085 will begin transition from AN/UPX-29(V) FC4 to FC5 information; course length will increase from 26 to 33 days.

III.A.2.b. PLANNED COURSES

CIN, COURSE TITLE: S-102-0085, Interrogator System AN/UPX-29(V) Maintenance **(with FC 5)**
TRAINING ACTIVITY: NAVAIR
LOCATION, UIC: St. Inigoes, 64485

SOURCE: USN **STUDENT CATEGORY:** ACDU - TAR

CFY03		FY04		FY05		FY06		FY07		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	25		45		45		45		45	ATIR
	23		41		41		41		41	Output
	1.7		3.1		3.1		3.1		3.1	AOB
	1.7		3.1		3.1		3.1		3.1	Chargeable

SOURCE: OTHER **STUDENT CATEGORY:** Other

CFY03		FY04		FY05		FY06		FY07		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	0		3		3		3		3	ATIR
	0		3		3		3		3	Output
	0.0		0.2		0.2		0.2		0.2	AOB
	0.0		0.2		0.2		0.2		0.2	Chargeable

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

The following elements are not affected by the AN/UPX-29(V) and, therefore, are not included in Part IV of this NTSP:

IV.A. Training Hardware

IV.A.2. Training Devices

IV.B. Courseware Requirements

IV.B.1. Training Services

IV.C. Facility Requirements

IV.C.1. Facility Requirements Summary (Space/Support) by Activity

IV.C.2. Facility Requirements Detailed by Activity and Course

IV.C.3. Facility Project Summary by Program

IV.A. TRAINING HARDWARE

IV.A.1. TTE / GPTE / SPTE / ST / GPETE / SPETE

CIN, COURSE TITLE: S-102-0085, Interrogator System AN/UPX-29(V) Maintenance
TRAINING ACTIVITY: NAVAIR
LOCATION, UIC: St. Inigoes, 64485

ITEM NO.	EQUIPMENT / TYPE OR RANGE OF REPAIR	QTY REQD	DATE REQD	GFE CFE	STATUS
TTE					
031	Processor-Controller CP-1273/UPX-24(V)	1	May 96	GFE	Onboard
032	Control Monitor, C-10065/UPX-24(V)	1	May 96	GFE	Onboard
033	Control Indicator, C-10064/UPX-24(V)	1	May 96	GFE	Onboard
034	Antenna Assembly, AS-3134()/UPX	1	May 96	GFE	Onboard
035	Antenna Position Programmer, CV3372/UPX	1	May 96	GFE	Onboard
036	Antenna Controller, C-10063/UPX	1	May 96	GFE	Onboard
037	Interrogator Set AN/UPX-27	1	May 96	GFE	Onboard
038	Interrogator Set AN/UPX-37	1	May 96	GFE	Onboard
039	RF Switching Group AN/UPA-61	1	May 96	GFE	Onboard
040	Crypto Computer, KIR-1C/TSEC	1	May 96	GFE	Onboard
041	Crypto Keyer, KOI-18/TSEC, and KYK-13/TSEC	1	May 96	GFE	Onboard
042	Alarm Monitor, BZ-173A/UPA-59(A)	1	May 96	GFE	Onboard
043	IFF Junction Box	1	May 96	GFE	Onboard
044	Radar Switchboard, SB-440/SP	1	May 96	GFE	Onboard
045	Test Target Generator	1	May 96	GFE	Onboard
046	Radar Trigger/Synchro Simulator	1	May 96	GFE	Onboard
047	NTDS Interface Simulator	1	May 96	GFE	Onboard
048	Control Monitor, C-8834/UPA-61	1	May 96	GFE	Onboard
049	Electronic Switch Assembly, SA-1807/UPA-61	1	May 96	GFE	Onboard

IV.A.1. TTE / GPTE / SPTE / ST / GPETE / SPETE

GPTE

001	Oscilloscope, 2246-1Y	1	May 96	GFE	Onboard
002	Multimeter, 77AN	1	May 99	GFE	Onboard
003	Power Meter, 4358	1	May 96	GFE	Onboard
004	Digital Multimeter, 27AN	1	May 96	GFE	Onboard
005	75 ohm Terminator	1	May 96	GFE	Onboard
006	Crystal Detector BNC/N(M)	1	May 96	GFE	Onboard
007	Terminator, 50 ohm	1	May 96	GFE	Onboard
008	Terminator, 75 ohm	1	May 96	GFE	Onboard
009	Attenuator, Fixed 10DB	1	May 96	GFE	Onboard

SPETE

020	OE-120 Antenna Horn	1	May 96	GFE	Onboard
021	AN/UPM-155 Radar Test Set	1	May 96	GFE	Onboard

IV.B.2. CURRICULA MATERIALS AND TRAINING AIDS

CIN, COURSE TITLE: S-102-0085, Interrogator System AN/UPX-29(V) Maintenance **(current course)**
TRAINING ACTIVITY: NAVAIR
LOCATION, UIC: St. Inigoes, 64485

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Instructor Guides	6	May 96	Onboard
Multimedia Projector	1	May 96	Onboard
Personal Computers	10	May 96	Onboard
Power Point Presentation, 150 Slides	1	May 96	Onboard
Prefaulted Modules	40	May 96	Onboard
Student Guides	48	May 96	Onboard
Student Test Package	48	May 96	Onboard
Wall Charts	12	May 96	Onboard

CIN, COURSE TITLE: S-102-0085, Interrogator System AN/UPX-29(V) Maintenance **(with FC 5)**
TRAINING ACTIVITY: NAVAIR
LOCATION, UIC: St. Inigoes, 64485

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Instructor Guides with FC5	12	Jan 03	Pending
Power Point Presentation with FC5, 20 Slides	1	Jan 03	Pending
Student Guides with FC5	48	Jan 03	Pending
Student Test Package with FC5	48	Jan 03	Pending
Wall Charts with FC5	12	Jan 03	Pending

Note: NAVAIR St. Inigoes is currently developing FC5 material for S-102-0085, Interrogator System AN/UPX-29(V) course.

IV.B.3. TECHNICAL MANUALS

CIN, COURSE TITLE: S-102-0085, Interrogator System AN/UPX-29(V) Maintenance
TRAINING ACTIVITY: NAVAIR
LOCATION, UIC : St. Inigoes, 64485

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
ACP-160 IFF/SIF Operation	Hard copy	8	May 96	Onboard
AE-UPX24-OMI-200 Technical Manual, Operation and Maintenance Instructions, AN/UPX-24(V) Interrogator Set	Hard copy	8	May 96	Onboard
AE-UPX29-OMI-100 Technical Manual, Operation and Maintenance Instructions, AN/UPX-29(V) Interrogator System	Hard copy	8	May 96	Onboard
AIMS 86-100 Mode 4 Handbook	Hard copy	8	May 96	Onboard
AN/UPA-61 RF Switching Group	Hard copy	8	May 96	Onboard
AN/UPM-155 Radar Test Set Operations Instructions	Hard copy	8	May 96	Onboard
AN/UPX-29(V) NTDS Manual Interrogator System AN/UPX-29(V) Naval Tactical Data System Interface Manual	Hard copy	8	May 96	Onboard
AS-177/UPX Omnidirectional Antenna	Hard copy	8	May 96	Onboard
AS-177A/UPX Omnidirectional Antenna	Hard copy	8	May 96	Onboard
AS-177B/UPX Omnidirectional Antenna	Hard copy	8	May 96	Onboard
AS-3134( )/UPX Technical Manual, Antenna Assembly	Hard copy	8	May 96	Onboard
BZ-173A/UPA-59(A) Technical Manual for Decoder Groups (Alarm Monitor)	Hard copy	8	May 96	Onboard
DoD AIMS 86-100B Technical Manual, Operation and Maintenance Overview General All-Service Mode 4 Handbook, Identification Friend or Foe	Hard copy	8	May 96	Onboard

IV.B.3. TECHNICAL MANUALS

KIR-1C/TSEC Crypto Computer Maintenance Manual (Confidential)	Hard copy	8	May 96	Onboard
MK XII Users Guide Maintenance Instructions for Shipboard AIMS	Hard copy	8	May 96	Onboard
NA 0967-LP-542-5010 Technical Manual, Operation and Maintenance Instructions, Interrogator AN/UPX-27	Hard copy	8	May 96	Onboard
NA 0967-LP542-5010 Technical Manual, Maintenance Instructions Organizational, Interrogator Set AN/UPX-27	Hard copy	8	May 96	Onboard
NA 16 30UPM155-1 UPM-155 Operation Instructions	Hard copy	8	May 96	Onboard
NA 16-30 UPM 155-2 Maintenance Instructions, Organizational and Intermediate Maintenance	Hard copy	8	May 96	Onboard
NA 16-60OE120/UPX-1 Technical Manual, Operation and Maintenance Instructions, Antenna Group OE-120120( )/UPX	Hard copy	8	May 96	Onboard
SG-841/UPX Technical Manual, SG-841/UPX	Hard copy	8	May 96	Onboard
SG-841/UPX Operator Instruction Chart	Hard copy	8	May 96	Onboard
SG-841/UPX Performance Standard Sheet	Hard copy	8	May 96	Onboard
SG-841/UPX Maintenance Standards Book	Hard copy	8	May 96	Onboard
WS 33578 Combat Systems to Interrogator System AN/UPX-29(V) Interface Design Specification	Hard copy	8	May 96	Onboard
NA 16-70UPX37-1 Technical Manual, Maintenance Instructions Organizational, Digital Interrogator AN/UPX-37	Hard copy	8	May 00	Onboard

PART V - MPT MILESTONES

COG CODE	MPT MILESTONES	DATE	STATUS
TSA	Conducted AN/UPX-29(V) Initial Training	FY77	Completed
OPTEVFOR	Conducted AN/UPX-29(V) TECHEVAL/OPEVAL	FY78	Completed
PDA	Conducted analysis of AN/UPX-29(V) MPT Requirements	FY80	Completed
OPO	Approved AN/UPX-29(V) NTSP	FY81	Completed
TSA	Began AN/UPX-29(V) Maintenance Follow-On Training	FY82	Completed
PDA	Awarded AN/UPX-29(V) production contract	FY83	Completed
CNO	Designated NAWCAD St. Inigoes AN/UPX-29(V) Permanent Training Activity	FY95	Completed
PDA	Updated AN/UPX-29(V) NTSP	FY96	Completed
PDA	Began Incorporating AN/UPX-29(V) FC5 Into Fleet	FY00	Completed
OPO	Updated Draft AN/UPX-29(V) NTSP	Feb 02	Completed
OPO	Incorporated Fleet comments into Proposed AN/UPX-29(V) NTSP	Nov 02	Completed
OPO	Forwarded Proposed AN/UPX-29(V) NTSP to OPNAV for Approval	Dec 02	Completed
OPTEVFOR	Begin MK-XIIA Mode 5 and Mode S DT and OT	FY03	Completed
PDA	Achieve AN/UPX-29(V) FC5 MSD	FY03	Completed
TSA	Begin AN/UPX-29(V) FC5 Transition Training at NAWCAD St. Inigoes	FY03	Completed
TSA	Incorporate FC5 AN/UPX-29 (V) Training Into Existing Course	FY04	Pending
TSA	Complete AN/UPX-29(V) FC5 Transition Training	FY08	Pending

PART VI - DECISION ITEMS / ACTION REQUIRED

DECISION ITEM OR ACTION REQUIRED	COMMAND ACTION	DUE DATE	STATUS
There are no action items pending.			

NAVAIR

PART VII - POINTS OF CONTACT

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PART VII - POINTS OF CONTACT

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